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CRITICIZES EXCESSIVE FUEL CONSUMPTION

Rapid industrial expansion implies greater fuel and electric power requirements. Putting fuel-consuming equipment in order, raising the efficiency level in the utilization of fuel, and introduction of new technique should be the daily task of every industrial enterprise and electric power plant.

The GRES imeni Artem introduced a number of technical measures which have considerably reduced fuel consumption and saved 1,000 tons of fuel. Here, an expander-evaporator, a preheater, and an injector with cooling chamber were installed. Air overflows of two boiler units were removed from the tanks of air heaters. Condensation in the gas and air ducts was removed, collection and utilization of heat and condensed steam drainage in the turbine shop was organized. These measures made it possible to lower the cost of electric power generation several percent.

The "Pobeda Oktyabrya" Cement Plant utilized the heat from clinkers from the Schneider pit furnaces for drying marl and effected a saving of 1,700 tons of fuel for the plant.

The Metallurgical Plant imeni Andreyev greatly decreased fuel losses by eliminating technical shutdowns. After thorough examination of all fuel-consuming plant units, extensive work has been done on hermetically sealing charge doors of the heating furnaces, and maximum heating control was established on double-chamber furnaces of the sheet mill. The double furnace in the open-hearth shop had been converted to a single furnace. Considerable work has been done on automatizing equipment, fuel accounting by shops, accident reduction, and smelting increase. The plant, saved 17,500 tons of fuel in 1948 through these measures and reduced fuel consumption norms in open-hearth shop No 1, 8.3 percent, in the strip-rolling mill, 17 percent, and in the sheet mill, 15.6 percent.

Krasnosulinsk Metallurgical Plant achieved substantial results in fuel economy by remodeling continuous furnaces in the rolling mill, replacing their heat insulation, resetting furnace crowns, and tightening brick structure. This saved approximately 3,000 tons of fuel and reduced its consumption 17.2 percent over the planned norms.

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An important means of saving fuel is the recovery and combustion of fuel waste in the steam boiler furnaces. The Locomotive Repair Plant imeni Lenin added sifted slag to regular fuel and thus saved 800 tons of ideal fuel. Utilization of fuel waste from gas generators in the foundry shop made possible a 12.3-percent reduction in the consumption of regular fuel.

Industries of the Southern region have many shortcomings which increase heat and fuel losses. Among them, the absence of steam-consumption accounting in some of the plants conceals great industrial heat losses. Boiler rooms are poorly equipped with measuring apparatus.

There are great fuel losses in the plant warehouses because little attention is given to proper organization of fuel storage and accounting. In the Southern region's electric power plants the turbine heating capacity and regenerative preheating of water are insufficiently used. The power plant boiler rooms are not equipped with necessary measuring control instruments, especially gas analyzers. The boilers operate with excessive unburned fuel and draft without regular blowing out of the heating surfaces and without utilizing the heat generated by this process.

In many electric power plants large steam leakages occur, the percentage of condensed water return is low, insulation is in poor condition. Proposed measures for restoring and improving the equipment have not been carried out for many years.

The GRES imeni Artem has effected a saving in fuel consumption, but the losses through lowered steam temperature at turbine No 3 have amounted to 3,000 tons of fuel in a year.

At this electric power plant excessive fuel consumption is primarily due to excessive blowing out of the boilers, which constitutes 11 percent instead of the normal 3 percent, according to rules established for the technical operation of electric power plants. Excessive consumption of electric power for the plant's needs amounted to 2,000 tons of fuel a year; about 1,500 tons of fuel a year were lost through not observing established procedure of preheating the water supply. Unburned fuel thrown away in waste and slag amounted to 35 percent instead of the planned 25 percent.

Industries in the south suffer considerable fuel losses through technical disrepair of fuel-consuming plants, through below-normal operation of steam-turbine installations, and lack of compliance with fuel-consumption regulations.

An important factor in the reduction of fuel consumption is the proper use of municipal electric power supply systems.

The TETs of the Fats Combine imeni Kuybyshev could have worked successfully along with the municipal GRES. This could have made possible more efficient use of the TETs turbogenerator, particularly since the turbogenerator is being utilized at only 32 percent of its established capacity. However, the technical facilities do not extend to the entire electric power system and all sections of the combine; consequently, the combine loses 3,400 tons of fuel a year. Lack of compliance with the technical regulations in the boiler room causes breakdowns and withdrawals of equipment from use for a long time.

The Krasnosulinsk Metallurgical Plant boiler room installation was supplied with hard water with up to 40 degrees hardness (German scale), producing considerable scale formation. This led to excessive consumption of fuel and frequent stoppages for boiler repairs.

There is a graph in the plant boiler room, which provides boiler stoppages for cleaning and current repairs. This graph is regularly violated, boilers are stopped for emergency repairs of burned through tubes every 20 days. The condensed water return to boilers is not assured. The heater surfaces are blown by compressed air at 2 - 3 atmosphere of pressure instead of the necessary 7 atmospheres. As a result the heater surfaces become dirty from soot, settled slag, and ashes. The fuel waste is so great that it completely covers up boiler fire tubes.

The steam supply system to consumers is in an unsatisfactory condition. There are steam leakages at the joints and fittings. These defects add 2,000 tons of fuel a year to excess consumption losses.

At the Locomotive Repair Plant imeni Lenin, a regular violation of the operation of basic technological equipment causes large fuel losses. An accounting of the idle periods of the cupola furnaces and drying chambers was not organized in the plant's iron foundry. The doors in drying chambers have leakages. The cupola furnaces are not equipped with control measuring instruments. The heaters of the forging and machine shop have defective insulation in their walls. The cracks and fissures in insulation lead to the heat loss into surrounding space. The estimated fuel loss in these furnaces is at least 4 percent.

At the Sel'mash Plant imeni Stalin the fuel consumption norms for the work of locomotives were not established. No norms have been established for the consumption of gas produced by the gas plant. The gas and heat are written off to various consuming shops arbitrarily. Such an arrangement in the accounting of heat consumption increased the norm of heat consumption for the combine and plow shop in 1949 to twice that of 1948. The established norms are not proved technically, and therefore do not encourage initiative of the power-engineering plant collective to search for the new ways to reduce fuel losses.

In toolmaking shop No 1, 40 percent of charge openings in heating furnaces, have no doors. In the forging-press shop of this plant up to 15 percent of the heating furnaces have no insulation. Air leaks in the annealing furnaces have not been eliminated.

The preheating of air with the heat of waste gases from the cupolas has not been carried out though the plan for using this heat has been developed. Fuel storage in warehouses has not been organized. The locomotive engineers take advantage of the lack of checking and use fuel without accounting for it.

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